Team #4 Team Torpedo

PORTFOLIO MANAGEMENT

SOFTWARE INITIATIVE

Advanced Management Program

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INTRODUCTION

The office of the Department of Navy Chief Information Officer (DONCIO) is developing a DON Information Technology (IT) Investment Portfolio Management Guide to provide a process to DON organizations that will produce a portfolio containing the best mix of prioritized IT investments that support the mission of the organization. This is in accordance with direction from the Under Secretary of the Navy to manage investments using portfolios. The guide is now in its final version and will be signed out officially by the DON CIO in the near future. In the interim DON CIO is pursuing automation of the process. They are currently talking to several vendors and are now preparing a White Paper identifying general requirements and detailed questions to be asked of each vendor in the selection phase. However, the concept of portfolio management may be even more valuable when applied to programs other than those strictly associated with IT systems. The purpose of this paper is to examine the progression of automated portfolio management as an IT/IM tool to one used for broad Navy program management and ultimately, recommend the next steps for testing and implementing portfolio management.

ENVIRONMENT

In 1996, recognizing the importance of information technology for effective government, the Congress and President enacted the Information Technology Management Reform Act and the Federal Acquisition Reform Act. Combined, these two Acts, known as the Clinger-Cohen Act (CCA), require the heads of Federal agencies to link IT investments to agency accomplishments. Among other things, the CCA requires agencies to implement a process for maximizing the value and assessing and managing the risks of Information Technology (IT) investments. In addition, the CCA establishes a comprehensive approach for executive agencies to improve the acquisition and management of their information resources by:

1. Focusing information resource planning to support their strategic missions;
2. Implementing a capital planning and investment control process that links to budget formulation and execution; and
3. Rethinking and restructuring the way they do their work before investing in information systems.[1]

In May 2001 the Government Accounting Office reported, "The Department of Defense (DOD) does not have a financial management enterprise architecture, and it does not currently have the management structures in place to effectively develop, implement, and maintain one. DOD has not applied recognized best practices, in particular, support and sponsorship by the head of the enterprise, and assignment of accountability and

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[1] OMB Circular A130, Management of Federal Information Resources; revised November 30, 2000.

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commensurate authority for developing, implementing, and maintaining a DOD-wide financial management enterprise architecture."[2] GAO went on to report their concern that billions of dollars would be spent by government agencies on new and existing financial management systems, each operating independent from one another, resulting in increased operations and maintenance and duplicative costs. However, there has been progress in some agencies in developing guides that align with the spirit of the CCA.

   In July 1998, the (DON CIO) issued the DON IT Capital Planning Guide to outline the Department's Capital Planning policies and procedures. In July 1999, the DON CIO issued the DON IT Investment Portfolio Model as a tool to assist decision makers in prioritizing and selecting IT investments. [3] Capital Planning is a management process that provides for the selection, management, and evaluation of IT investments in the Planning, Programming and Budgeting System (PPBS).   This concept gives acquisition managers the ability to break down their "cradle to grave" cost responsibilities into three distinct phases throughout the acquisition lifecycle of the IT investment.[4]

   The DON CIO IT Investment Portfolio Model is concentrating IT investments to optimize financial management decisions to obtain information superiority to various organizational levels. Decision-makers can prioritize IT investments, using this as a tool to select a portfolio of IT projects. Financial and risk factors are important elements within the project portfolio and must have a significant relationship to the organizations mission with acceptable risk. The final product must have been reviewed with the portfolio to ensure the organizations combination of mission goals are accurately reflected in the IT investment. [5]

   Conceptually, portfolio planning is a fairly simple effort. The desired outcome is an easily understood comparative display of data common among a group of similar items such as investments, projects or programs. The difficult part of portfolio planning is condensing a significant amount of data down to a simple display, which then allows comparisons of performance.

NAVSEA IT PORTFOLIO MANAGEMENT

   NAVSEA's original interest in portfolio planning software came as a result of the ongoing effort to better manage, and reduce, the extensive command-wide software

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[2] Information Technology: Architecture Needed to Guide Modernization of DOD's Financial Operations (17-MAY-01, GAO-01-525).
[3] Portfolio Management: "A Revolution in Business Affairs" by Joeneicy Lewis

[4] Capital Planning for Information Technology (IT) Investments by Bob Wagner & Vince Serio

[5] DON IT Investment Portfolio Model by Karla McCullough

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application inventory. Though originally mandated by CCA, the necessity to reduce the 30,000 software applications within NAVSEA has become a more urgent task with the implementation of NMCI. Seeking a software package to assist with objective decision-making, NAVSEA turned to ProSight as the leading option. ProSight is a multi-level application that enables process or project management at the lowest level and then compiles data from all similar processes so that comparisons between competing processes may be graphically displayed. In the case of software application inventory management, ProSight simply enables comparison of performance and value parameters for similar types of software and provides graphical displays to indicate which applications, based on objective criteria, should be retained or discontinued. Command-wide consistency, inventory reduction, and best value are the primary goals of the effort. Because activities within the command have been allowed to make independent decisions concerning software acquisitions, these NAVSEA command-wide goals have yet to be met.

In May 2002, Mr. Pete Brown, the NAVSEA Executive Director, was provided a demonstration of ProSight for the purpose of evaluating the software as a possible portfolio planning solution. Mr. Brown recommended a demonstration to Ms. Sharie Bourbeau, the NAVSEA CIO. In June 2002 a ProSight demonstration was provided for the NAVSEA CIO and the Capital Planning Office. It was concluded from the demonstration that ProSight is a viable option for implementing an automated portfolio planning process at NAVSEA. A proof of concept was conducted from July to November 2002 to determine the feasibility of implementation within the NAVSEA environment. Executive approval to conduct a pilot implementation is pending.

The Proof of Concept:

The NAVSEA CIO initially felt that the ProSight tool could mature the current NAVSEA IT Investment Portfolio Planning Process and benefit the business units by providing the ability to effectively manage both IT and non-IT investments. In July 2002, the NAVSEA Capital Planning Team partnered with PMS 393 to begin a proof of concept utilizing ProSight. The proof of concept focused on two areas:

> ➢ The NAVSEA IT Investment Portfolio Planning Process
> ➢ The coordination and oversight of submarine Shipyard availabilities

The proof of concept included an intensive effort of collecting data to build the portfolio design that best supports and demonstrates the value of an automated portfolio planning process. Teams participated in discovery interviews, training sessions and various design meetings. These efforts culminated with a presentation and live software demonstration to NAVSEA and DON CIO executives.

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Capital Planning Team Focus:

The Capital Planning Team focused on the annual NAVSEA IT Investment Portfolio Planning Process. The team extracted 2002 data to design and build the portfolios that demonstrate how the tool can automate the collection and analyses processes thereby enabling management to make better business decisions.

PMS 393 Team Focus:

The submarine availabilities are mandated by submarine class maintenance plans and specifically funded by congressionally approved budgets. Therefore, PMS 393 does not make "classic" portfolio decisions with regard to whether NAVSEA will invest in an availability or continue to invest in one that is in the execution phase. PMS 393's role is primarily availability coordination and oversight. Their challenge is significant: to cost-effectively plan and manage the personnel, industrial capacity, and material resources needed to successfully complete all submarine major depot availabilities. This challenge is even more critical in light of the fact that 60% of the submarine force will undergo availabilities within the next six years, with up to 15% of the force undergoing availabilities simultaneously. Slippage in the schedule of one availability can have direct effects on the schedules of following availabilities as well as on overall submarine force operational readiness.

The PMS 393 Team met with the program manager, shipyard factory managers, project engineers, maintenance planners, and material personnel during the discovery phase. Key parameters identified in the Baseline Project Management Plan (BPMP) to plan and execute submarine availabilities were identified and combined with other relevant data submitted by the shipyards in Project Performance Reviews. Portfolios were developed for submarines in Engineering Refueling Overhauls (ERO) and Depot Maintenance Periods (DMP) based on key events in the execution phase.

Expected Benefits:

Automated data collection:

- The Internet driven collection process will significantly reduce the time required to collect the data.
- Automated data entry provides for real time business unit review and updates.
- Participating business units will have access to the portfolio database.
- Standardized data can be extracted from multiple sources.

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Automated Analysis:

- Allows for the creation of multiple portfolios.

- Facilitates a consistent form of measuring.

- Visibility will enhance the adoption of automated portfolio planning.

- Enables multi-dimensional views where variables are explored in the context of how they relate to the entire portfolio.

- Real time what-if scenario planning enhances the decision-making process.

- NAVSEA can perform better analysis by establishing value criteria.

Automated Results Dissemination:

- Leadership can easily access or view decision data.

- Leadership can be continually updated with current status reports.

- Allows for team collaboration.

Proposed Alternatives: (Analysis provided in Appendix A)

A. Continue the "as is" NAVSEA IT Investment Portfolio Planning Process using Microsoft Word and Excel as well as research other portfolio planning tools.

B. Conduct a pilot using ProSight's automated portfolio planning tool to:

1. Automate analysis of the 2003 NAVSEA IT investment portfolio planning data.
2. Automate the 2004 NAVSEA IT Investment Portfolio Planning Process (collect and analyze value added data from business units using standardized forms).
3. Automate the PMS 393 submarine availability data (non-IT initiative).

C. Fully implement the ProSight tool throughout NAVSEA (requires IMAP approval). The tool will be used by business units for all IT initiatives and Program Managers for other business applications.

Recommended Course of Action:

After careful investigation and evaluation, the Capital Planning and the PMS 393 Teams recommend alternative "B option three", as the best solution at this time.

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Alternative "B" enhances the portfolio planning capabilities by automating the analysis of the 2003 NAVSEA IT investment portfolio planning data and automating the collection and analysis of the 2004 data submission.

The Capital Planning Team will extract the 2003 data into the ProSight tool, perform analyses, and generate reports for management review. For the 2004 NAVSEA IT Investment Portfolio Planning Process, the business units will provide data using standardized forms developed by the Capital Planning Team. In addition, they will extract the data provided by the business units for analysis and collection.

The PMS 393 Team will develop portfolios for submarines in Engineering Refueling Overhauls (ERO) and Depot Maintenance Periods (DMP) based on key events in the execution phase, add the planning phase for evaluation, and test functionality to extract data from the Naval Shipyards.

CONCLUSION:

Clearly, in the current software reduction environment driven by NMCI, the last thing NAVSEA or the Navy needs is another legacy system used to manage an isolated number of programs or processes. However, the greatest potential for NAVSEA with a portfolio management tool may be in the opportunity to compare programs and product lines across the entire command. For example, cost, schedule and management performance among Carrier, Submarine and Surface Platform programs could be compared based on consistent criteria. This would enable the top leadership of NAVSEA to evaluate the relative success among the various programs it manages on behalf of the Navy. This would lead to a higher level of management and performance benchmarking than is currently possible. The next step for both the IT and PMS 393 portfolio management processes within NAVSEA is to take each effort from proof-of-concept to pilot and examine the benefits once each is fully utilized. If successful, the following step would be to implement portfolio management for other programs within NAVSEA and ultimately, use the tool for overall NAVSEA multi-program management.

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APPENDIX A

Analysis and Summary of Potential Alternatives:

A) Continue the "as is" NAVSEA IT Investment Portfolio Planning Process using Microsoft Word and Excel as well as research other portfolio planning tools.		
Description:	Continue using Microsoft Word and Excel to collect, analyze and communicate the NAVSEA IT Investment Portfolio Planning Process. Researching and evaluating options to automate portfolio planning at NAVSEA.	
Objectives:	• To comply with the Clinger-Cohen Act • To make the best decision for the selection of an automated portfolio management tool	
Portfolio Planning:	**Advantages**	• Process already in place • No additional cost • No additional training • Allows additional time to research and review other automated portfolio planning tools
	Disadvantages	• Cumbersome and time consuming • Not fully automated • Does not fully comply with CCA • Does not lend itself to rapid analysis • Restricted level of analysis • Lost opportunity to improve decision-making process • Data resides in different locations • Does lend itself to rapid visualization of data
Project Plan:	**Schedule**	Yearly update of portfolios
	Resource Commitment	No change
Cost:	**License**	N/A
	Maintenance	N/A
	Consulting	N/A
	Training	N/A
	Data Transform	N/A

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B) Conduct a pilot using ProSight's automated portfolio planning tool to: • **Automate analysis of 2003 IT investment portfolio planning data** • **Automate the 2004 NAVSEA IT Investment Portfolio Planning Process (collect and analyze value added data from business units using standardized forms)** • **Automate PMS 393 submarine availability data (non-IT initiative)**		
Description:	Enhance the portfolio planning capabilities by: • Entering the 2003 NAVSEA IT investment portfolio planning data into ProSight. The Capital Planning Office will extract data into the ProSight tool and perform analyses and create reports. • Using ProSight for automation of the NAVSEA IT Investment Portfolio Planning Process which includes the collection and analysis of the 2004 data submission. NAVSEA business units will be required to provide data using standardized Excel forms but will not have access to the ProSight tool. • Using ProSight for the coordination and oversight of submarine availabilities. The PMS 393 Team will extract data into the ProSight tool, perform analyses and create reports.	
Objectives:	• To improve and automate the portfolio planning process • To comply with the Clinger-Cohen Act • To develop value-added data needed for proper portfolio planning • To utilize portfolio planning in other areas that are not traditionally IT focused	

Portfolio Planning:	**Advantages**	• Efficient analysis of existing data
		 • Enables more in-depth analysis
		 • Opportunity for scenario planning
		 • Senior Management visibility
		 • Team collaboration
		 • Single data repository
		 • Speed knowledge transfer throughout the Command
		 • Reduce costs by coordinating the use of resources:
		   Training
		   Technology
		   Licensing
		   Internal lessons learned
		 • Evolution of best practices
		 • Employ better decision-making practices
		 • Maintain momentum from proof of concept

	Disadvantages	• Limited participation and visibility by business units • Costs (staff time and money) associated with purchasing licenses, server, consulting support and training • Change Management issues – (buy-in, adoption rate and resistance).

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B) Conduct a pilot using ProSight's automated portfolio planning tool to:		
- Automate analysis of 2003 IT investment portfolio planning data - Automate the 2004 NAVSEA IT Investment Portfolio Planning Process (collect and analyze value added data from business units using standardized forms) - Automate PMS 393 submarine availability data (non-IT initiative)		
Project Plan:	**Schedule**	**Q1 –** - Decision to utilize ProSight tool - Complete statement of work (SOW) and task order (TO) - Purchase software - Begin pilot by 12/01/02 - Design and build a utility to extract current data - Develop initial design of portfolios - Establish development environment **Q2 –** - Conduct training sessions - Present 2003 findings **Q3 –** - Issue guidance for 2004 - Refine data call governance processes utilizing ProSight **Q4 –** - Present business case for enterprise wide implementation - Initiate NMCI certification process
	Resource Commitment	**NAVSEA CIO Project Team:** Executive Sponsor – 1 @ 5% NAVSEA Project Lead – 1 @ 25% Project Team Members – 2 @ 35%
Cost:	**License**	Options: 1) 25 named users @ **$135,000** for an IT and non-IT mix plus **$10,000** for each separate database. 2) 50 staff size users on GSA schedule @ **$105,000**. 3) 150 staff size users on GSA schedule. Combined effort with Puget Sound Shipyard @ **$48,000** for NAVSEA (lower maintenance costs/ multiple servers). *Options do not include maintenance costs.*
	Maintenance	Options: 1) **$27,000** 2) **$21,000** 3) **$29,700**
	Consulting	**Consulting Support Service: Includes NAVSEA CIO and PMS 393 efforts** - Project Lead – **$75,000** - ProSight Business Analyst - **$40,000** *(consulting support and includes a four day training course for six people)* - Technical Support – **$5,000** *(BCI)* ODCs: **$10,000**

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B) Conduct a pilot using ProSight's automated portfolio planning tool to: • **Automate analysis of 2003 IT investment portfolio planning data** • **Automate the 2004 NAVSEA IT Investment Portfolio Planning Process (collect and analyze value added data from business units using standardized forms)** • **Automate PMS 393 submarine availability data (non-IT initiative)**		
	Training and Design	Four day training course for six people included in ProSight Business Analyst costs.
	Hardware	Server - (BCI will provide) Estimated lease cost - **$15,000** for the first year and **$1,500** maintenance each additional year
	Data Transform	**$5,000** for initial data transform

Total Costs for Alternative B:

Options	License	Maintenance	Consulting	Hardware	Data Transform	Total Cost
Option 1	$135,000	$27,000	$145,000	$15,000	$5,000	**$227,000**
Option 2	$105,000	$21,000	$145,000	$15,000	$5,000	**$291,000**
Option 3	$48,000	$29,700	$145,000	$15,000	$5,000	**$242,700**

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C) Fully implement the ProSight tool throughout NAVSEA (requires IMAP approval). The tool will be used by business units for all IT initiatives and Program Managers for other business applications.		
Description:	Enterprise wide portfolio implementation. NAVSEA business units and program managers will adopt portfolio planning processes for IT and non-IT investments to make better business decisions.	
Objectives:	• To comply with the Clinger-Cohen Act • To implement a full eGovernment solution for IT business processes (select, manage and evaluate) using portfolio management	
Portfolio Planning:	**Advantages**	• The CIO office and business units will benefit from the ease of an automated data submission, information visibility and general portfolio planning knowledge transfer • Better decisions, better value, alignment, balance and monitored control • The NAVSEA CIO will partner with business units to achieve a portfolio planning view of IT initiatives • The NAVSEA CIO Office will obtain valuable information related to implementation of portfolio planning • Knowledge transfer among business units, the NAVSEA CIO office and throughout the Command • Full implementation will accelerate organizational change • Full implementation will result in economies of scale • The NAVSEA CIO will bridge the vertical business units' needs with the horizontal Command needs (DON & NAVSEA Functional Areas) • All business units participate
	Disadvantages	• Costs (staff time and money) associated with purchasing licenses, server, consulting support and training • Resources – Allocation of Staff time • Change Management issues – (buy-in, adoption rate and resistance) • Possibly out of sync with DON CIO guidance on automated portfolio planning tool

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C) Fully implement the ProSight tool throughout NAVSEA (requires IMAP approval). The tool will be used by business units for all IT initiatives and Program Managers for other business applications.		
Project Plan:	**Schedule**	**Q1 –** • Positive decision to utilize ProSight tool • Initiate the IMAP Process • Initiate NMCI certification process • Design and build the data transform • Develop initial design of portfolios • Establish development environment • Purchase software • Complete SOW **Q2 –** • Conduct training session for CIO and business unit personnel • Present 2003 findings • Draft New Data Call Objectives • Obtain business unit Feedback on Data Call Objectives • Complete Automated Collection Process • Business Unit user training **Q3 –** • Issue guidance for 2004 • Refine data call governance processes utilizing ProSight • Enterprise automated collection process **Q4 –** • Collect data • Collaborative analysis of data
	Resource Commitment	**NAVSEA CIO Project Team:** • Executive Sponsor – 1 @ 5% • NAVSEA Project Lead – 1 @ 35% • Project Team Members – 2 @ 35% • Business Units ACIO – 2 @ 5% Analysts – 2 @ 10%
Cost:	**License**	TBD
	Maintenance	20% of license cost
	Consulting	**Consulting Support Service** TBD
	Training and Design	TBD
	Hardware	TBD
	Data Transform	TBD

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